

# A NEW SPECIES OF *ORNITHOICA* RONDANI FROM NEW CALEDONIA (DIPTERA: HIPPOBOSCIDAE)

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*Ornithoica caledonica* sp.n. (*pusilla* group) is described from New Caledonia, collected from the endemic flightless bird *Rhinoceros jubatus*. In addition, *Ornithoica plicata* (von Olfers) was collected from the endemic pigeon *Ducula goliath*. A total of six species of Hippoboscidae are now recorded from New Caledonian birds.

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Key words. – Diptera, Hippoboscidae, *Ornithoica*, new species, New Caledonia.

Ectoparasites including louse flies (Diptera: Hippoboscidae) were collected as part of a survey of the parasites and their impact on two birds endemic to New Caledonia; the kagu (*Rhinoceros jubatus* Verreaux & Des Murs) and the notou (*Ducula goliath* (Gray)). Field work was conducted by Dr Frederic Beugnet in association with the CIRAD agency.

The louse fly, *Ornithoica caledonica* sp. n. (assigned to the *O. pusilla* (Schiner) group) was collected from the kagu. The kagu is a pale grey, mid-sized (58 cm), flightless bird (Delacour 1966). Although flightless, the kagu has large, brightly marked, flexible wings, believed to be used for sexual displays (Lindsey 1993). It is a diurnal bird, inhabiting dense rain-forests, and forages on insects, snails, and earthworms (Lindsey 1993). The kagu is an endangered species, with an estimated 200 breeding pairs. The widespread louse fly, *Ornithoica plicata* (von Olfers) was collected from the notou, a large (50 cm) endemic pigeon, which inhabits montane forests (Delacour 1966).

Prior to this study five species of Hippoboscidae were recorded from New Caledonian birds, including the endemic species *Myophthiria neocaledonica* Maa, and the widespread species *Olfersia aenescens* Thomson, *Ornithoica plicata*, *Ornithoica exilis* (Walker), and *Ornithophila metallica* (Schiner) (Maa & Marshall 1981, Maa 1989).

## MATERIALS AND METHODS

Material based on this study will be deposited in the Museum National d'Histoire Naturelle, Paris,

France (MNHP) and Canadian National Collection of Insects, Ottawa, Canada (CNC). Specimens of *O. pusilla* were borrowed from the United States National Museum of Natural History, Washington, USA (USNM).

Terms follow those of McAlpine (1981), except male terminalia where terms of Cumming et al. (1995) are followed. Male and female abdomens were removed, macerated in hot 85% lactic acid, and examined in glycerin.

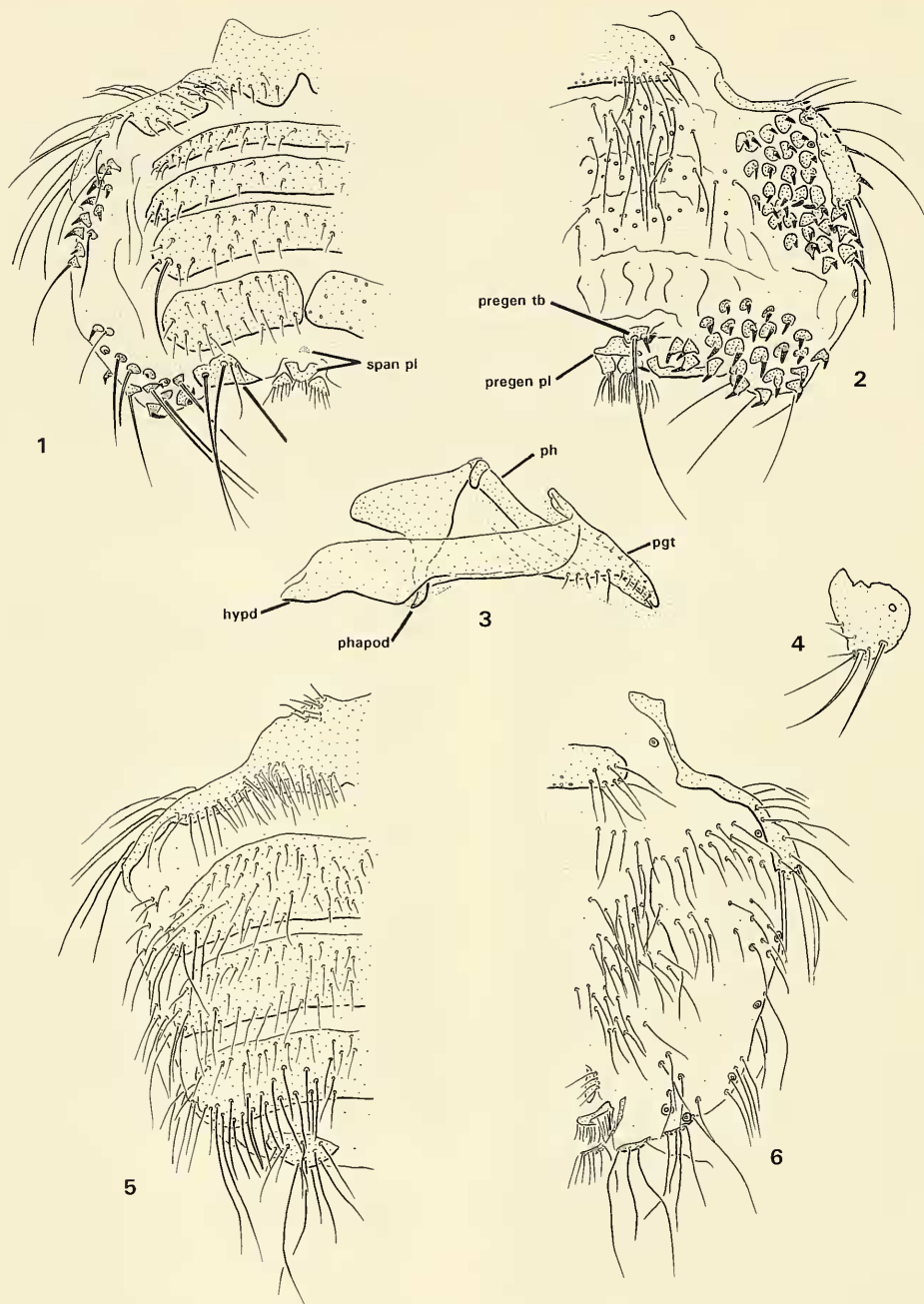
## TAXONOMY

### *Ornithoica pusilla* group

Species of the *O. pusilla* group are distinguished from the remaining species of *Ornithoica* on the basis of female tergite 6 medially divided and by clusters of more than 30 pairs of large anchor-like spines near the apex of the abdomen (Maa 1966).

### Key to species of *O. pusilla* group

1. Apex of female abdomen with dense cluster of anchor-like spines, base of spines in contact with neighbouring spines; female tergite 6 subtriangular; male laterite 6 bearing one long, stout and one short seta . . . . . *O. pusilla* (Schiner)
- Apex of female abdomen with anchor-like spines not densely clustered, base of spines not in contact with neighbouring spines; female tergite 6 rectangular; male laterite 6 bearing five long, stout setae . . . . . *O. caledonica* sp.n.



Figs. 1-6. Female and male abdomens and male terminalia of *Ornithoica caledonica* sp. n. – 1, female, dorsal view; 2, female, ventral view; 3, male terminalia, lateral view; 4, female laterite 7; 5, male, dorsal view; 6, male, ventral view. Abbreviations: hypd, hypandrium; ltg 7, laterite 7; pgt, postgonite; ph, phallus; phapod, phallapodeme; pregen pl, pregenital plate; pregen tb, pregenital tubercle; span pl, supra-anal plate.

*Ornithoica caledonica* sp. n.  
(figs. 1-6)

Type examined. – Holotype ♀: 'NEW CALEDONIA / Parc Rivière Bleue / 1992-94; ex. Kagu / coll. F. Beugnet, / Y. Létocart & R. Gadet'; 'HOLOTYPE / *Ornithoica* / *caledonica* / Sinclair' (MNHP).

Paratypes: Same data as holotype (1 ♂, 3 ♀, CNC; 2 ♂, 3 ♀, MNHP).

Recognition. – Females distinguished from *O. pusilla* by a rectangular tergite 6, narrowly divided and lacking long stout setae, crescent-shaped supra-anal plate, pregenital tubercle bearing one long seta and one long spine-like seta, subtriangular laterite 7, and apex of abdomen with anchor-like spines less densely clustered. Males are distinguished by 5 long, strong setae on laterite 6 and by the slender ventral arm of the phallapodeme.

Etymology. – Named in reference to the type locality.

### Description

Female. – Wing length 3.25-3.5 mm

Thorax. Presutural scutum (prescutum) with long, pale setae, about as dense as scutellum; postsutural scutum (scutum) largely bare, with transverse row of pale setae along posterior margin. Scutellum with 2 long and 3 shorter pairs of dark, subapical setae. Anterior margin of prosternum truncate.

Wing. Microtrichia covering only extreme tip of cell  $r_{2+3}$ ; cells  $r_{4+5}$  and  $m_{1+2}$  mostly covered by microtrichia except for basal fifth; cell  $cuA_1$  with patches along vein.

Abdomen. Richly spinose; syntergite 1+2 with short, fine setae; dorsal setae on tergites 3-6 shorter than length of tergites; lateral setae on tergites 3-5 more pronounced; lateral setae on tergite 5 twice length of tergite; tergite 5 longer than 3 or 4; tergite 6 narrowly divided medially into pair of broad rectangular sclerites, lacking long stout setae. Laterite 2 with marginal setae longer than tergites 3 and 4 combined; ventrolateral margin of laterite 2 with short, spine-like setae; laterite 7 subtriangular, with 3 strong setae and 4 setulae. Dorsolateral membranous region above level of spiracles lacking setae. Sternite 1 with numerous marginal setae and 1 median spine-like seta; disc of venter with 7-8 rows of slender setae, basal ring pale; setae lacking anterior to pregenital tubercle; pregenital tubercle paired, bearing 1 long strong seta and 1 long spine-like seta. Anchor-like spines clustered in 2 widely separate groups; spines equal in size; base of spines not in contact with neighbouring spines. Supra-anal plate with anterior and posterior sclerites

clearly separated, both crescent-shaped; anterior sclerite thinly sclerotized; posterior sclerite with 2 pairs of setulae, outer pair longer than median; pregenital plate somewhat 'L'-shaped.

Male. – Similar to female. Tergites 3-5 broader than female; tergite 6 widely divided into pair of sub-rectangular sclerites; laterite 6 slender, bearing 5 long, strong setae; spiracle 7 lying anterior to 6; ventrolateral setae mounted on slightly raised sockets. Terminalia: Phallapodeme (basal apodeme) subtriangular, ventral edge constricted forming long slender process; postgonite or gonostylus (tip of penis valve) strongly arched and tapering, margin with row of setulae; phallus (aedeagus) slender, tapering to point, encased in membranous sheath.

Remarks. – Prior to this study, the *O. pusilla* group was monotypic. *Ornithoica pusilla* is widespread among the atolls and small islands of the central Pacific, and found on a variety of hosts (Maa 1966, Maa 1989).

*Ornithoica caledonica* was collected on the kagu, an endemic bird of uncertain relationships, assigned to the Rhynchoetidae of the order Gruiformes (rails, cranes, buttonquail and allies) (Lindsey 1993). The kagu is restricted to La Grand Terre or the main island of New Caledonia.

### *Ornithoictona plicata* (von Olfers)

Material examined. – NEW CALEDONIA: Parc Rivière Bleue, ix.1993-xii.1994, ex. Notou, F. Beugnet, Y. Létocart & R. Gadet (2 ♂, CNC).

Remarks. – Specimens of *Ornithoictona plicata* were collected on the notou, an endemic pigeon (*Ducula goliath*). This hippoboscid is widespread on islands in the Pacific and Indian Oceans and has been recorded from about 50 genera of land and aquatic birds (Maa & Marshall 1981). In New Caledonia, *O. plicata* was previously recorded from Grande Terre and the Loyalty Is. (Maa 1989). In New Guinea, *O. plicata* has been collected on *Ducula zoeae* and in Vanuatu (New Hebrides) it has been collected on *D. pacifica* (Maa 1969, Maa & Marshall 1981).

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